# Advanced Engineering • • • Testing Solutions

#### Heavy Duty Electric Vehicle End-Of-Line Chassis Dynamometer





Smarter by Design



### Mustang Advanced Engineering is an industry leader in the design, manufacture and installation of advanced End-Of-Line (EOL) test

MAE has the right resources and products to assist in the engineering, development and validation of your electric vehicle systems. As a leading supplier of testing and simulation solutions for the development of powertrains and powertrain components, MAE has been involved in the development of advanced EV testing and simulation test systems from the very beginning. MAE delivered one of the industry's first hybrid electric vehicle test systems for GM's EV1 program in the late 1990's. While the competition was just learning what a hybrid was, Mustang was delivering systems for EV powertrain development.

Since then, MAE has continued to develop industry leading hardware and software for testing applications ranging from AC Engine Dynamometers, Electric Motor Test Systems, Inverter Test Systems, Battery Simulation Systems, Full Powertrain Test Systems, eAxle Test Systems, and Complete End of Line (EOL) Multi-Function Test Stands for production testing and validation. MAE has extensive experience in EOL testing and offers a variety of products and services to support your production testing requirements. MAE can upgrade your existing production line hardware and software, interface with existing databases or supply a complete turnkey production testing solution.

#### MAG=250-HD-AC-200HP-10K Advantages

- Automated pop-up restraint systems to increase vehicle throughput
- Base inertia of 10,000 lbs. provides superior driveability and enhanced inertia simulation performance
- Low profile frame design allows the system to be placed upon the factory floor with ramps
- Provides the ability to perform SAE J2264 Road Load Simulation (+/- 3 lbs nominal)
- Provides tha capability of testing EV recharging systems

#### **MAE-250-HD-AC-200HP-10K Specifications**

Roll Diameter	10.7" (272 mm)
Roll Surface	Knurled (standard) Chrome (optional)
Roll/Inertia Weight Balance Specification	ISO DR1940 G3.0
Rotation	Bi-directional
Speed Range	0 - 100 mph (0 - 160 kph)
Power Absorber	AC motor
Absorber Size	200 HP (150 kW)*

<sup>\*</sup>Other sizes are available, contact MAE sales at 1.330.963.5400 or sales@MustangAE.com

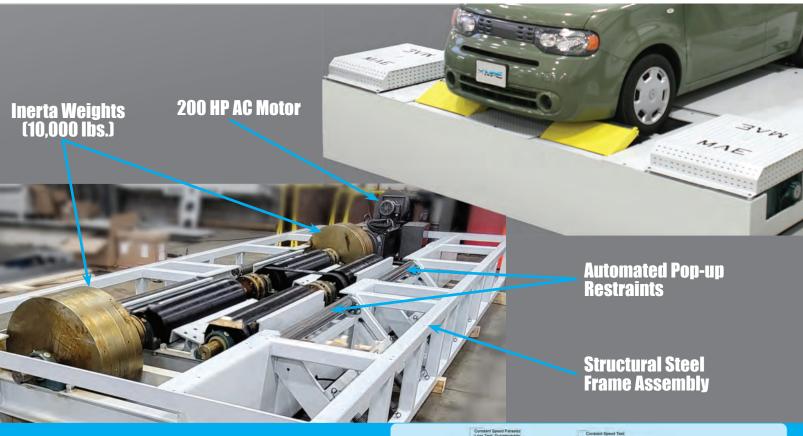
#### **Options & Accessories**

- · Power analyzer measurement systems
- Exhaust removal systems
- Vehicle cooling systems
- Battery simulators & charging systems
- ECM read/write control interfaces.

Roll Width	40" (1,016 mm)
Inner Track Width	28" (711 mm)
Outer Track Width	108" (2,743 mm)
Roll Spacing	20.67" (525 mm)
Axle Weight	12,000 lbs (5,443 kg)
Pop-up Restraint Size	3.5" (89 mm) diameter
Tire Size Capability	27-40" (698-1,029 mm)
Base Inertia	10,000 lbs (4,536 kg)
Wheel Force (axle)	2,945 lbs (13.1 kN)

- Factory automation system interfaces
- Fire & sound suppression systems
- Temperature chamber package
- Thermal imaging system integration
- Vibration analysis

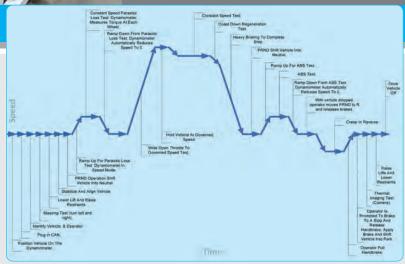
## stands for automotive, heavy-duty and off-road vehicle production & quality assurance testing applications.



The MAE'-250-HD-AC-200HP-10K Chassis Dynamometer offers a flexible solution for test control, data acquisition and operator interface, stepping test operators through each step of an automated EOL test sequence in a simple and user-friendly format, while collecting, analyzing and reporting on vehicle systems status and performance data. The dynamometer communicates with each test vehicle via CAN communication to determine pass/fail results and to establish certain vehicle system status as required during the test procedure. The flexibility of MAE's systems allows easy adaptation to meet unlimited test procedures and simulation requirements.

MAE's experience and expertise with sophisticated end-of-line systems stems from having supplied a host of fully-integrated, automated testing solutions for a wide range of EOL testing applications. MAE offers completely customized end-of-line testing solutions for your specific production validation applications.

A sample EOL test procedure is illustrated in the figure on the right, which includes a recharging system test. MAE can easily customize an automated EOL test sequence to meet your EOL testing requirements.





Thermal Imaging and vibration analysis are commonly integrated into EOL test stands. Thermal images on key under hood points before and after cycle testing allows QA engineers to establish pass/fail criteria based on areas of interest and temperature limits.





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#### **About MAE**

Mustang Advanced Engineering is a leading provider of comprehensive testing solutions for the development and testing of engines, powertrain systems and complete vehicles. Founded in 1975, Mustang has long been a trusted source of expertise in measurement and testing technologies for the global industrial market. World-class product offerings, custom design support and technical assistance, backed by a dedicated factory service team, has positioned MAE among the global leaders in providing advanced testing solutions.

As a global leader in the design, manufacturing, and integration of advanced testing and measurement systems, MAE has delivered and continually supports literally thousands of test systems to virtually every corner of the globe.

Our mission is to achieve the highest possible level of customer satisfaction by providing innovative technical solutions and product designs and by striving to achieve perfection in product quality, delivery and service. At MAE, our customers are our highest priority - we do everything in our power to satisfy our customers. Our entire organization understands that the customer comes first and nothing else is more important.

To learn more about how MAE can help solve your most demanding testing challenges contact one of our sales engineers or visit www.mustangae.com.

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